

10/510343

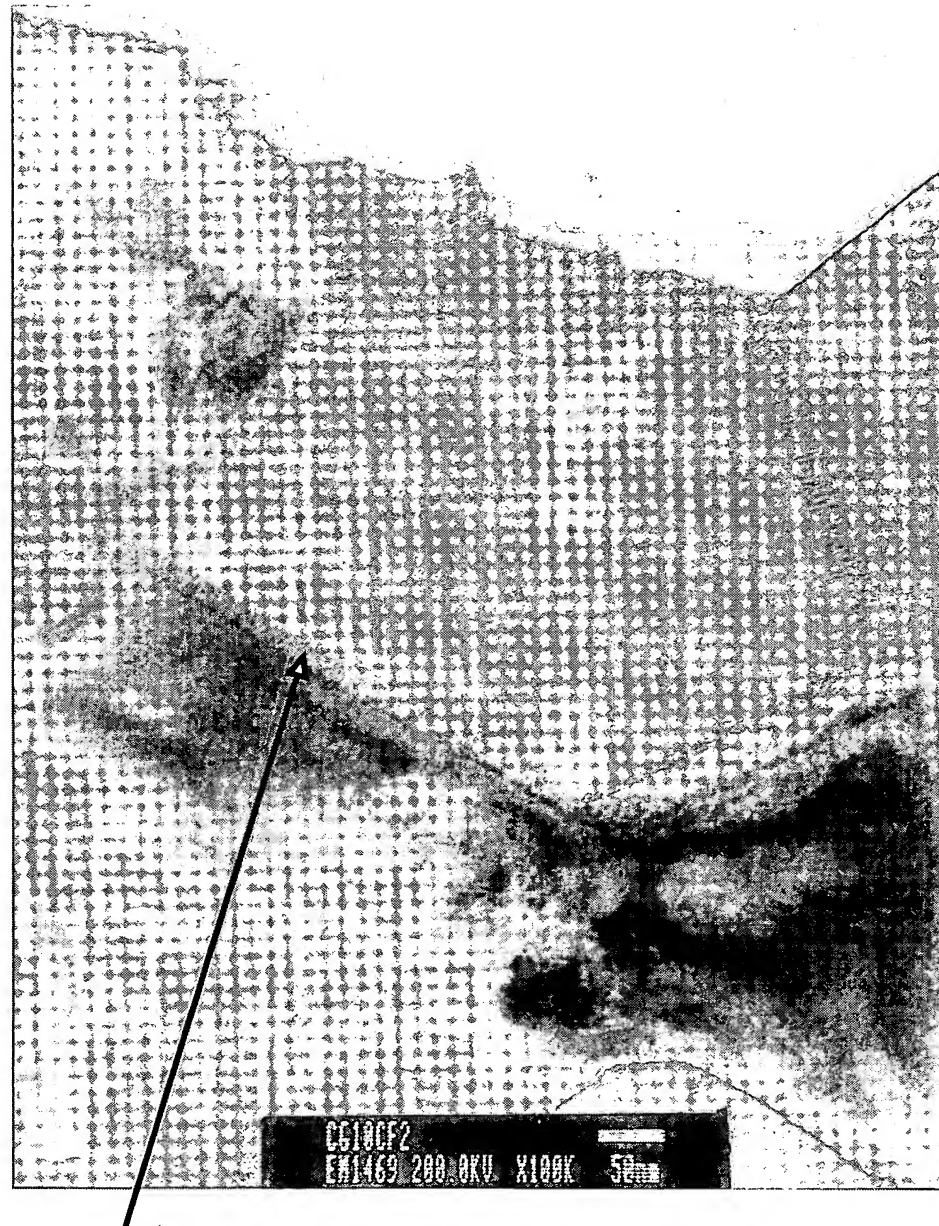
FIG. 1

CFO
(Electronic Conductive Phase)



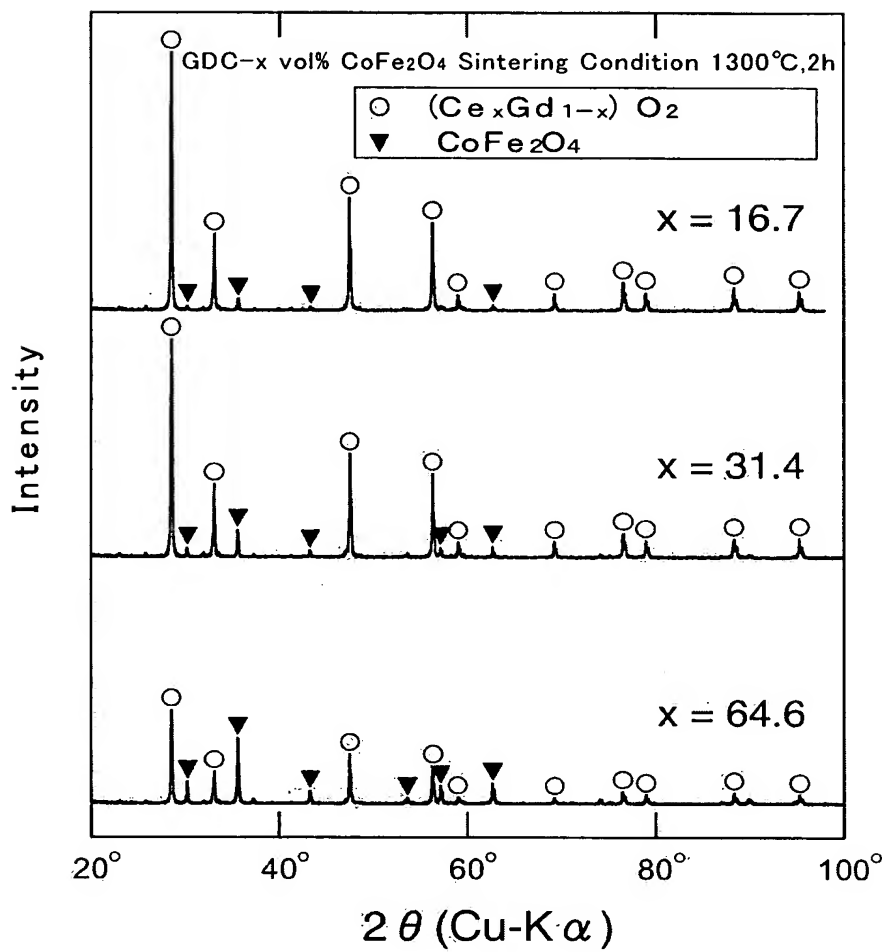
GDC
(Electronic Conductive Phase)

FIG. 2



Grain Boundavy Phase

FIG. 3



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FIG. 4

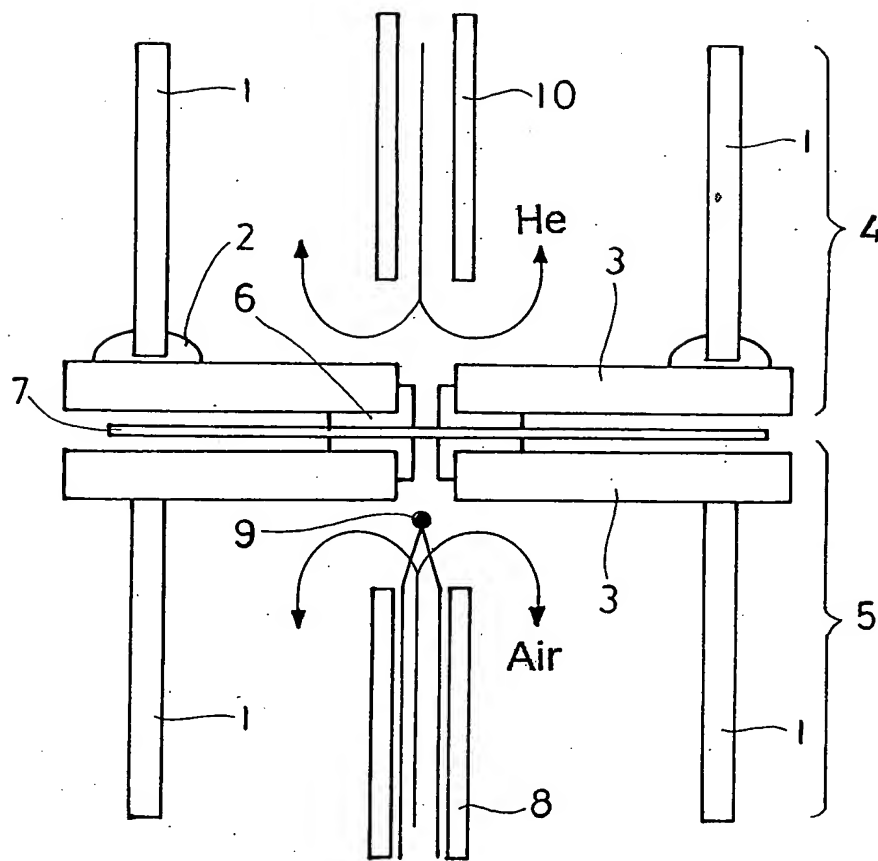


FIG. 5

GDC-x vol% Oxygen Permeability of CFO Composite

Composition	Temperature (°C)	Thickness (mm)	Gas	j_{O_2} ($\mu\text{mol}\cdot\text{cm}^{-2}\cdot\text{s}^{-1}$)	Ref
31CFO	1000	1.38	He	0.107	This work
24CFO-Ni	1000	1.05	He	0.204	This work
24CFO-Ru	1000	1.04	He	0.208	This work
24CFO-Ru	1000	0.86	Ar-H ₂	1.260	This work
25GCC	1000	1.50	He	0.083	(1)
25LSM	950	1.00	He	0.067	(2)

(1) U. Niggeet *et. al.* Solid State Ionics **146** (2002) 163.

(2) V.V. Kharton *et. al.* J. Eur. Ceram. Soc. **21** (2001) 1763.

FIG. 6

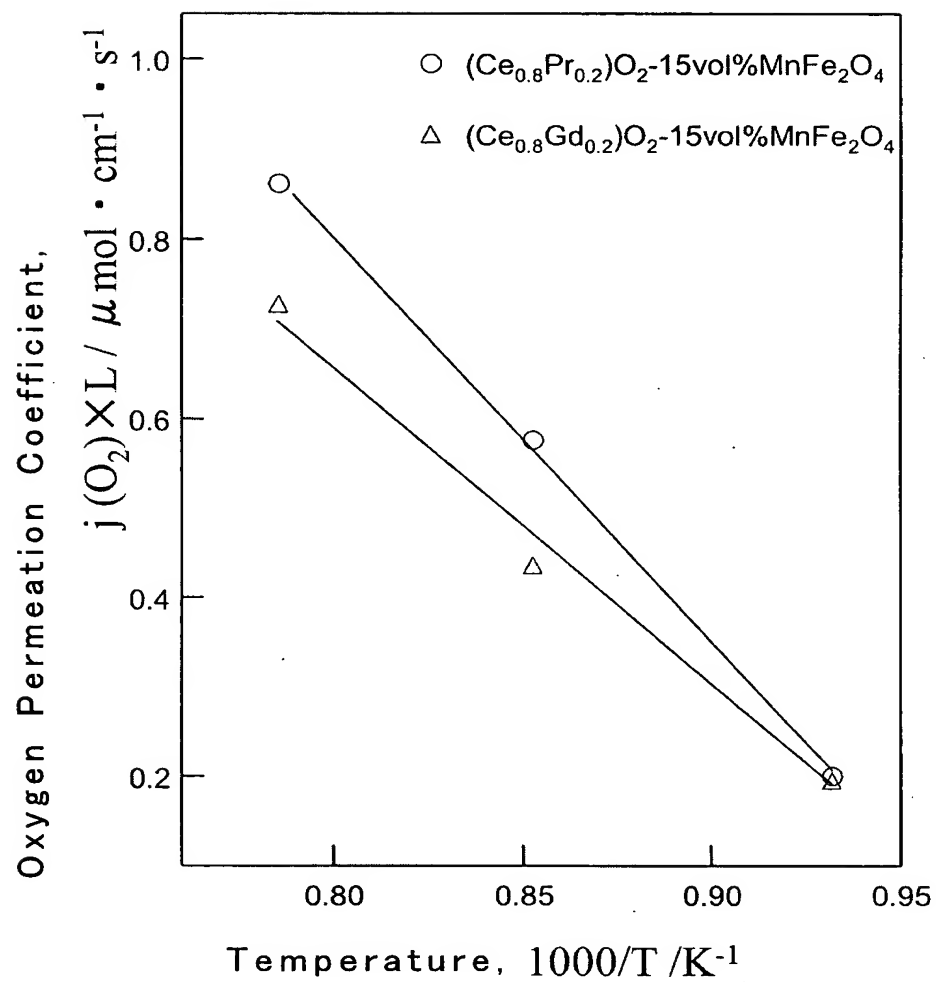


FIG. 7

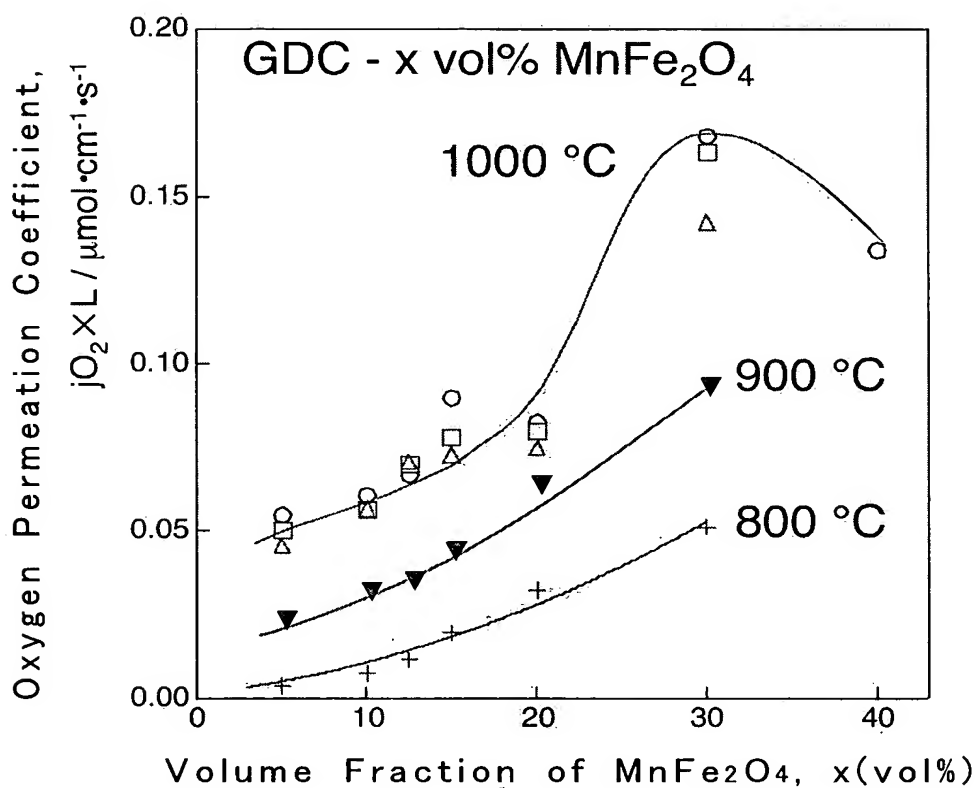


FIG. 8

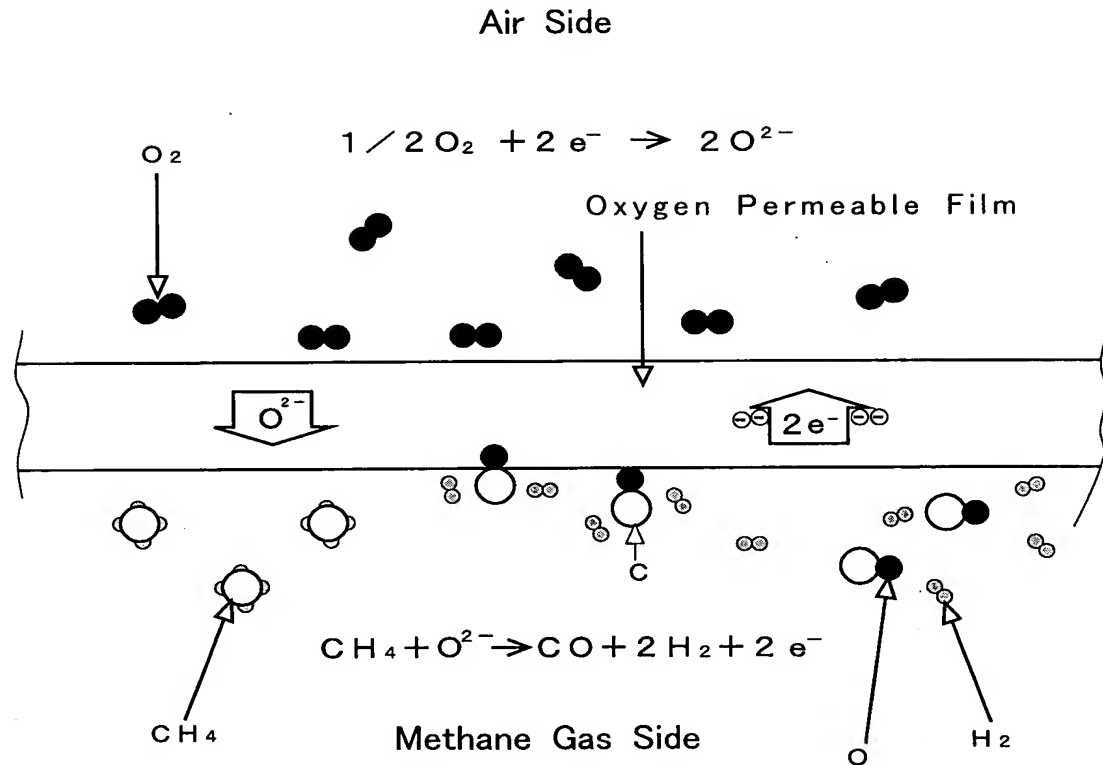


FIG. 9

